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FIVE-YEAR REVIEW REPORT

NUTTING TRUCK AND CASTER SITE

FARIBAULT
MINNESOTA

Pursuant to CERCLA

APPROVED by:
United States Environmental Protection Agency
Region 5
Chicago, Illinois

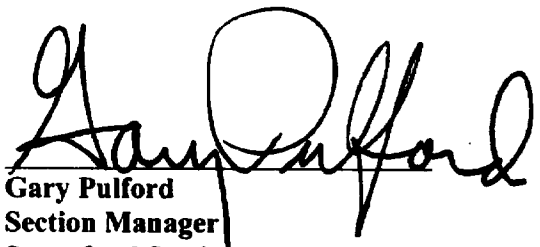
William E. Muno, Director
Superfund Division, Region 5

5/16/03
Date

THIRD FIVE YEAR REVIEW REPORT

NUTTING TRUCK AND CASTER SITE
FARIBAULT, MINNESOTA

Prepared by:
Minnesota Pollution Control Agency
St. Paul, Minnesota



Gary Pulford
Section Manager
Superfund Section
Majors and Remediation Division

May 8, 2003

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LIST OF ACRONYMNS

1,1-DCE	1,1-dichloroethene
1,2-DCE	1,2-dichloroethene
ARAR	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COP	Close Out Plan
EPA	United States Environmental Protection Agency
HRL	Health Risk Limit
MCL	Maximum Contaminant Level
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
NCP	National Oil and Hazardous Substance Contingency Act
NPL	National Priority List
O&M	Operation and Maintenance
RA	Remedial Action
RAP	Remedial Action Plan
RI	Remedial investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
TCE	Trichloroethene

Executive Summary

On behalf of the United States Environmental Protection Agency (U.S. EPA), the Minnesota Pollution Control Agency (MPCA) has conducted a Five-Year Review of the Remedial Action (RA) implemented at the Nutting Truck and Caster site (Site), Faribault, Minnesota. This is the third Review for the Site and it evaluates whether the RA continues to protect public health and the environment.

Historical analytical data regarding ground water quality generated at the Site was the main source of information utilized to evaluate the effectiveness of the remedial action. A Site visit was conducted to verify the operating conditions of the Site relative to operation and maintenance (O&M) of the remedial action. All O&M data generated to date clearly demonstrate that the objectives of the remedial action have and continue to be met.

Current cleanup criteria established for the Site must be modified to be consistent with State and Federal standards to ensure protectiveness of the remedial action. Institutional controls must be placed on the Site to act as administrative controls to ensure the long-term effectiveness of the remedies imposed at the Site.

Given the nature of current risk associated with the Site, the manner in which the risk is being managed, the MPCA will be initiating delisting activities to delist the Site from the Minnesota Permanent List of Priorities (PLP) and the United States Environmental Protection Agency National Priority List (NPL).

Five-Year Review Summary Form

Nutting Truck and Caster Company

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Nutting Truck and Caster Co.		
EPA ID *(from WasteLAN)*: MND006154017		
Region: 5	**State:** MN	**City/County:** Faribault/ Rice Co.
SITE STATUS		
NPL status: X Final ☐ Deleted ☐ Other (specify)		
Remediation status (choose all that apply): ☐ Under Construction X Operating ☐ Complete		
Multiple OUs?* ☐ YES X NO	**Construction completion date:** 04/ 01/ 1987	
Has site been put into reuse? X YES ☐ NO		
REVIEW STATUS		
Lead agency: ☐ EPA X State ☐ Tribe ☐ Other Federal Agency		
Author name: Mark G. Rys, PG		
Author title: State PM	**Author affiliation:** State Project Manager	
Review period:** 03 / 31/ 1998 to 03 / 31/ 2003		
Date(s) of site inspection: 02 / 20/ 2003		
Type of review: ☐ Post-SARA X Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion		
Review number: ☐ 1 (first) ☐ 2 (second) X 3 (third) ☐ Other (specify)		
Triggering action: ☐ Actual RA Onsite Construction at OU #____ ☐ Actual RA Start at OU#____ ☐ Construction Completion X Previous Five-Year Review Report ☐ Other (specify)		
Triggering action date *(from WasteLAN)*: 03 / 31 / 1998		
Due date *(five years after triggering action date)*: 03/ 31/ 2003		

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

A close out plan must be developed to update the long-term management of the groundwater remedy in place at the Site. While a monitoring plan does exist to manage the current groundwater remedy, the plan needs to be updated to make the operation and maintenance program more cost-effective.

Currently, project cleanup levels are not appropriate to manage human health risk associated with a TCE plume as they are not consistent with State and Federal ARARs (MCLs and HRLs). Therefore, project cleanup levels must be modified to match both HRL and MCL standards in order to address this issue.

Institutional controls have not been implemented for the Site to ensure the effectiveness of the current remedial action.

All of the goals specified in the Consent Order/Remedial Action Plan for the remedial action have been met and all risk scenarios addressed in full. The MPCA must consider pursuing delisting the Site from the PLP and NPL.

Recommendations and Follow-up Actions:

1. Develop a Close Out Plan (COP) which will establish criteria through which the remedial action will be shut down. The COP will establish criteria to make the current remedial action more cost-effective to manage in both the short- and long-term duration of the remedial action. The COP will also established criteria which will dictate when it is appropriate to implement a natural attenuation study at the Site. The purpose of this study will be to evaluate the potential for natural attenuation to adequately control and maintain TCE concentrations down gradient of the pump out system at levels below the associated ARARS (MCLs/HRLs).
2. The MPCA will update project cleanup levels for the Site based on ARARs as described by State and Federal standards (MCLs and HRLs).
3. Institutional controls in the form of a restrictive covenant will be developed to manage residual contamination left on Site.
4. Because the remedial actions objectives of the RAP have been met, the Site has been operationg the pump-and-treat remedy effectively for over 15 years, the MPCA will delist the Site from the Minnesota Permanent List of Priorities (PLP) and will proposes to have the Site delist from the Federal NPL and the State PLP.

Protectiveness Statement(s):

The remedy is protective of human health and the environment. The ground water extraction system is operational and functional and there are no exposures of concern. The best available information indicates that currently the system adequately protects human health and the environment. Long Term protectiveness will be achieved when groundwater standards have been achieved.

I. INTRODUCTION

On behalf of the U.S. EPA, the MPCA has conducted a Five-Year Review of the RA implemented at the Nutting Truck and Caster Site, Faribault, Minnesota. This is the third Review for the site and it evaluates whether the RA continues to protect public health and the environment. Section 121 (c) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and Section 300.430(t)(4)(ii) of the National Oil and Hazardous Substance Contingency Plan (NCP), require that periodic (no less often than five years) reviews be conducted for sites where hazardous substance, pollutants, or contaminants remain at the site above levels that disallow unlimited use and unrestricted exposure following the completion of remedial actions for the Site.

OSWER Directive 9355.7-02 (Structure and Components of Five-Year Reviews, May 23, 1991) provides that U.S. EPA will conduct Five-Year Reviews as a matter of policy (Policy review) at: 1) sites where no hazardous substances will remain above levels that allow unlimited use and unrestricted exposure after completion of the RA, but the cleanup levels specified in the Record of Decision (ROD) will require five or more years to attain; and 2) sites addressed pre-SARA at which the remedy, upon attainment of the cleanup levels, will not allow unlimited use and unrestricted exposure. MPCA has conducted this third Five-Year review in accordance with item 2) of the policy.

II. SITE CHRONOLOGY

1891-1984:	Nutting manufactured and distributed casters, wheels, hand trucks and towline trucks at Faribault facility.
1959:	Nutting begins using seepage pit in northwest corner of the Site for deposit of waste and sludges, including waste solvents.
1979:	MPCA issues a Notice of Noncompliance to Nutting regarding past disposal practices.
1979-1983:	Nutting performs remedial investigation activities to delineate nature and extent of soil and ground water contamination in and around the Site.
1983:	Nutting placed on U.S. EPA's NPLs.
1987:	Nutting submits an MPCA approved Remedial Action Plan (RAP) to operate and maintain ground water remedy at the Site.
1987-present:	Nutting operates ground water remedy, pump-and-treat, at Site.

III. BACKGROUND

Physical Characteristics

The Nutting Company was formerly located at 1221 Division Street in Faribault (Rice County), Minnesota (Figure 1). Between 1891 and 1984, Nutting manufactured and distributed casters, wheels, hand trucks and towline trucks at its Faribault facility.

Land and Resource Use

Adjacent land use was originally agricultural, and now consists of mixed residential, commercial, and light industrial.

History of Contamination and Initial Response

Prior to 1970, Nutting deposited foundry wastes in a surface depression at the southern end of the Site (Figure 2). Beginning in 1959, Nutting used a seepage pit in the northwest corner of the Site for deposit of waste and sludges, including waste solvents. This operation continued until April 1979, when the Minnesota Pollution Control Agency (MPCA) issued a Notice of Noncompliance to the company regarding these past practices.

In 1980, under the direction of MPCA, Nutting excavated materials and contaminated soils associated with the seepage pit and backfilled and paved the excavated area. The MPCA concluded that the excavation effectively removed the referenced source materials.

The city of Faribault operates five municipal wells, the nearest of which is located approximately one-half mile down gradient (north) of the Nutting facility (Figure 1). In October and November 1982, well water analyses indicated all five municipal wells were contaminated with trichloroethylene (TCE) and 1,2-dichloroethylene (1,2-DCE), a degradation product of TCE. Based on further investigations by the MCPA and the Minnesota Department of Health (MDH), both State agencies concluded that the source of contamination in the municipal well did not appear to be related to the TCE plume migrating from the Site.

From 1979 to 1983, Nutting installed six monitoring wells in the vicinity of the Site, including one upgradient and one downgradient from the former seepage pit. Analytical results indicated ground water beneath the former pit was contaminated with cadmium, lead, cyanide, methylene chloride, TCE, and xylene. TCE was also detected in wells upgradient and at the boundary of the Site.

On September 8, 1983, the Site was placed on the U.S. EPA's National Priorities List (NPL) of abandoned or uncontrolled hazardous waste sites, eligible for investigation and cleanup under Superfund.

On April 26, 1984, MPCA issued a Consent Order to the Nutting Company to conduct a Remedial Investigation (RI) to determine the extent of contamination at the site and the effect of contamination on the city's municipal wells. In 1984, the Nutting Company shut down operations at the Site and moved its operations to South Dakota. The Site is now leased for commercial and light industrial purposes.

Results of Site Investigations

1. Geology and Hydrogeology

The uppermost geologic unit is glacial outwash, which thickens northward and is underlain by the St. Peter Sandstone. Together they comprise the upper aquifer. The base of the St. Peter is typically shaley, and although this condition is present at the site (rock coring RC-3), the presence of dissolved contamination beneath the shaley zone indicates the basal St. Peter retards but does not prevent vertical migration of ground water. The Prairie du Chien Group (Oneota and Shakopee Dolomites and New Richmond Sandstone) underlies the St. Peter Sandstone, and comprises the Prairie du Chien Aquifer.

The lateral hydraulic gradient in the upper aquifer and in the Prairie du Chien aquifer is to the north. Water level measurements during the RI and subsequent data confirmed a slight upward vertical hydraulic gradient between the Prairie du Chien Aquifer and the upper aquifer.

RI water quality monitoring data detected TCE (at concentrations up to 570 ug/l) and 1,2-DCE in shallow ground water downgradient of the former seepage pit. TCE has been consistently detected at concentrations less than 35 ug/L in samples from one Prairie du Chien Aquifer monitoring well, located immediately downgradient of the former pit location. TCE has not been detected in samples from the three Prairie du Chien monitoring wells installed north of the Site.

2. Soil and Surface Contamination

Nutting drilled several soil borings in the southern portion of the Site to determine whether non-foundry wastes were disposed in the former surface depression. Boring samples were analyzed by head space gas chromatography on-site. Detected contamination was limited to surface or near surface soils, and was attributed to spillage during drum handling in those areas.

Basis for Taking Action

This section will evaluate the basis for taking action relative to human health risks, ecological risks, regulatory standards by risk is evaluated and, a discussion of applicable or relevant and appropriate requirements which identifies regulatory standards by risk is evaluated.

A. Human Health Risk

TCE is the contaminant of concern at the Site. There is a pending Minnesota Health Risk Limit (HRL) of 5 ug/l for TCE, which is considered the concentration in ground water that can be safely consumed daily for a lifetime. It is MPCA policy to recognize HRLs as proposed by the MDH. In Minnesota, HRLs are used as criteria for Best Management Practices and Water Resource Protection Requirements. State ground water protection programs use the HRLs as criteria for their purposes. The MDH uses HRLs as criteria to:

1) advise consumers and owners of private well drinking water supplies, which are not regulated for contamination by the MDH;
2) evaluate options to reduce exposure where no federal standard (e.g. MCL) exists;
3) evaluate environmental projects;
4) evaluate site impacts on public health and make recommendations.

The federal Maximum Contaminant Level (MCL) for regulating public water supplies is also 5 ug/l TCE. The MCL is based on several factors, including health risks and other factors such as the cost to treat water to the MCL in public supplies. The MDH enforces this criterion.

The MDH, on behalf of the Agency for Toxic Substances and Disease Registry (ATSDR), prepared a "Site Review and Update, Nutting Truck and Caster", dated October 24,1995. The MDH concluded the following about the Site:

1) The ground water remains contaminated with TCE in the drift, St. Peter, and Prairie du Chien aquifers beneath the Site.
2) The recent levels of TCE in the ground water at the compliance point have been below the Consent Order cleanup level, but in some instances are above the MCL.
3) Channelized flow in the Prairie du Chien results in unpredictable flow rates and directions in sub regional scales. Irregular flow paths in the Prairie du Chien aquifer have not been documented with respect to the existing Site data.
4) The Faribault municipal well field, impacted by TCE, is down gradient from the Site and other potential sources.
5) An unknown source may be impacting the Faribault municipal wells.
6) The observed TCE concentrations at the Site fall in the range of the MCL, the Minnesota HRL of 5 ug/l, and the cleanup level of 50 ug/l.

B. Ecological Risk

The former disposal area has been overlain by an engineered cap in the form of an asphalt parking and loading area. There is no access to the underlying soil by either flora or fauna. The ground water contamination is intercepted by the pumpout wells; therefore, there are no identified ecological receptors.

C. Applicable or Relevant and Appropriate Requirements (ARAR) Review

By established U.S. EPA policy, Five-Year Reviews are to evaluate newly promulgated or modified Federal and State environmental laws as they affect remedial action at the site under review. Because the April 1984 Consent Order for the Site pre-dated establishment and use of ARARS, the Nutting Consent Order did not address ARARs for construction, maintenance and monitoring of the remedial action. The potential ARARs to be reviewed are:

1. Safe Drinking Water Act (SDWA), 40 CFR Parts 141-143. Establishes MCLs for ground water remediation.
2. National Pollution Discharge Elimination Permit. Permit Number 0057541.
3. Minn. R. 4717.7100 to 4717.7800. HRLs for ground water contaminants.
4. Minn. R. ch. 7050. Discharge to a surface water body.
5. Minn. R. 7060. Establishes uses and nondegradation goal for ground water.
6. Minn. R. 4725. Water well code. Establishes standards for the construction, maintenance and sealing of wells.

The remedial action comparative performance standards for ground water are the MCLs (ARAR #1 above) for public water supplies, and the Minnesota HRLs (ARAR #3 above). Figure 4 shows the VOC concentrations in the pump-out wells.

The RI and RAP at the Site uses a cascade treatment, whereupon pumped ground water is discharged to Crocker's Creek via storm sewer. This discharge is regulated by the requirements of the NPDES/SDS permit issued for discharge (ARAR # 2). The NPDES/SDS permit (MNO057541) establishes site discharge limits, which are monitored in accordance with the requirements of the permit, and reported to MPCA. The NPDES/SDS permit requirements are determined pursuant to Minn. R. 7050 (ARAR #4), discharge to surface water bodies.

Minn. R. 7060 (ARAR #5) establishes a nondegradation goal for uncontaminated ground water and a risk-based goal for contaminated ground water to prevent further degradation and to manage existing contaminated ground water in consideration of the beneficial use of the aquifer. The Consent Order also requires, pursuant to Minn. Stat., due consideration to economic factors and other material matters affecting the feasibility and practicability of any proposed action.

Minn. R. 4725 (water well code, ARAR #6) establishes standards for the construction, maintenance and sealing of production and monitoring wells. The responsibility for maintaining this ARAR falls primarily upon drillers performing work at the site, and enforcement of the code is by the Minnesota Department of Health.

In summary, the previous discussion indicates that the following ARARs should be considered for the Site:
MCLs;
HRLs;
NPDES permit requirements water well code.

IV. REMEDIAL ACTIONS

Remedy Selection

Response Order by Consent (Consent Order) signed by the responsible party and by the MPCA on September 22, 1987, required the Nutting Company to perform the RA. The U.S. EPA was not signatory to the order. A Remedial Action Plan (RAP) was attached as an Exhibit to the Consent Order. The major component of the selected remedial action was the installation of a ground water extraction well system. The MPCA Board Item presenting the Consent Order stated "the purpose of the [Response Action Plan] RAP is to mitigate migration from the Nutting site of contaminated ground water in the alluvium and upper St. Peter aquifers and thereby ensure protection of the downgradient aquifer for future use as a drinking water supply. MPCA files state that calculations indicated the cleanup level of 50 ppb TCE would ensure mitigation. According to the Board Item, "The RAP specifically requires Nutting to (1) pump out contaminated ground water until a concentration of 50 ppb of TCE is consistently achieved in the alluvium at the

Nutting property boundary, and (2) monitor ground water to assess the effectiveness of the pump out system." The Consent Order is "based on information known to the parties on the effective date [9/22/87] of this order..." According to the RAP, the pump out system would intercept and mitigate the identified contaminant plume in the ground water as it leaves the Nutting property. The system must mitigate the most significant portion of any contaminant plume which might be downgradient of the pumping wells. The discharge is aerated to volatilize the contaminants.

Remedy Implementation

The source remediation, excavation and closure of the disposal pit area, under MPCA-approved activities previous to the RAP, are considered to be complete and adequate.

Ground Water Extraction System

The ground water remedial action, described in the RAP, consists of two recovery wells (P18 in the glacial drift, or outwash, and P17 in the St. Peter; Figure 3), a cascade or air stripping treatment system with discharge through a corrugated pipe connected to the storm sewer, and eventual discharge to Crocker's Creek under a MPCA NPDES/SDS permit. According to file documentation, the system has continuously operated since November 25, 1987.

System Operation/Operation and Maintenance

The monitoring is conducted for RA effectiveness and National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permit compliance. Periodic reports provide evaluation of the effect of the pump out system.

Ground Water Monitoring Network

The RAP established a Ground Water monitoring network (Figure 2) to assess the effectiveness of the ground water pumpout system, and to detect future contaminant migration from the Site. Since 1987, Nutting has performed semi-annual sampling at eight wells (including the two pumpout wells), the catch basin, and the outfall area at the discharge to Crocker's Creek, although MPCA staff recently reduced this frequency to annually. The ground water samples are analyzed for TCE, 1, 1-dichloroethylene (1,1-DCE), cis-1,2-DCE, and trans-1,2-DCE.

Remedial Action Operation and Performance

Extraction system monitoring verifies hydraulic containment within a portion of the upper aquifer.

Contaminant levels are approaching asymptotic conditions in extraction wells P-17 and P-18 at levels close to the HRL/MCL for TCE (Figure 4). Most monitoring well sampling data indicate a similar gradual decrease in contaminant levels in the ground water. While TCE concentrations in B4, the St. Peter monitoring well in the source area, have been fluctuating and exhibiting slight increasing trends over the last four years, the other St. Peter well, B8, located downgradient of the Site has exhibited TCE concentrations in only 2 sampling events at concentrations of 0.8 and 0.77ug/l over 14 years of sampling indicating the extraction system is effective at capturing the contamination migrating off Site.

V. PROGRESS SINCE THE LAST REVIEW

The Site remedy has remained in operation since the March 1998 5-Year Review. Data generated since the last review indicates some fluctuation in contaminant concentrations at on-Site monitoring wells (B4 and W13) (Figure 5, Figure 6) in the vicinity of the source area. The nature of the increase in TCE concentrations in these wells has not been determined. However, the remedy appears to be effective in restricting the flow of contaminants beyond the pump-out wells located just north of the property boundary.

The recommendations stated in the 1998 5-Year Review and subsequent follow-up status are as follows:

1. Determine whether the contaminant plume is controlled to the site cleanup level of 50 ug/l TCE on a long term basis.

2. Determine whether control of the contaminant plume in the upper aquifer is sufficient to control contamination in the Prairie du Chien Aquifer.

MPCA Follow-up: The plan to evaluate these situations involved turning the pumping system off and monitor site ground water conditions to determine if the remedial action had an effect in altering the plume dynamics and thereby creating a stable plume situation relative to the Site cleanup level of 50 ug/l. However, the MPCA was in the process of evaluating potential sources for a separate downgradient TCE plume which was impacting a municipal well. The project team of MPCA and Nutting decided it would be prudent to postpone the proposed evaluation until the MPCA had made the determination that the TCE plume from the Site was not associated with the TCE plume impacting the downgradient municipal well. Due to the unknown status of a TCE plume impacting a downgradient municipal supply, the MPCA and Nutting decided not to turn any component of the pumping system off until the MPCA was finished evaluating the potential sources for the downgradient TCE plume. Therefore the proposed plan stated above was abandoned and long term monitoring of the pump out system continued.

VI. FIVE-YEAR REVIEW PROCESS

Administrative Components

The responsible party (RP) representing Nutting, Shirley and Stewart Shaft, were notified and given the opportunity to contribute to the content of this document. Dorsey & Whitney LLP, legal council for RP, and Barr Engineering, technical council, were also notified of the review and was the source of comments and input to this document on behalf of the RP.

The primary author of this document was the MPCA represented by Mark G. Rys, P.G.

Components associated with this review are:

May 8, 2002:	Annual ground water sampling event to demonstrate effectiveness of the remedial action to prevent migration of the TCE plume beyond sentinel wells.
February 20, 2003:	MPCA site inspection with RP to observe and confirm operation of the pump-out-system.
March 1, 2003:	Work with RP and associated consultant and legal council to develop context of this document.
March 31, 2003:	Submit first draft of this document.

Community Involvement

Notice was not provided to the local Community regarding the development of this 5-Year Review document. Notice will be provided to the local Community regarding the completion of this 5-Year Review through the local newspaper.

Summary of Site Visit

At the time of the Site visit (February 20, 2003), MPCA staff (Mark G. Rys) observed that the old disposal pit area was covered by a concrete pad, and it appeared intact and in good condition. One of the pumping wells was in working order, operating as described in routine monitoring reports submitted by Nutting. The Site buildings are now rented as office and warehouse space, or are vacant.

Document and Data Review

The document and data review which took place to complete this document consisted of:

- Health Consultation, Nutting Truck and Caster, Rice County, Faribault, Minnesota; June 2, 2000.
- Annual reports submitted to MPCA documenting ground water sampling results and pump-out-system operation and maintenance status.
- Ground water analytical data and associated trends for all ground water sampling events conducted at the Site.

VII. TECHNICAL ASSESSMENT

The ground water analytical data generated from the monitoring network at the Nutting Site continue to demonstrate that the ground water remedy designed for the Nutting Site continues to be effective in preventing the ground water plume from migrating beyond the compliance monitoring network designed for the Site.

The project cleanup level as defined in the Remedial Action Plan is 50 ug/l for TCE, measured in the upper aquifer at the Nutting property boundary. While contaminant concentrations in a well on site in the vicinity of the source area (B4) continue to exhibit concentrations above the Site cleanup level, existing monitoring and pumpout wells at the Nutting property boundary (B15, PWI7, PWI8) currently meet the cleanup level for the Site.

VIII. ISSUES

A close out plan must be developed to update the long-term management of the ground water remedy in place at the Site. While a monitoring plan does exist to manage the current groundwater remedy, the plan needs to be updated to make the operation and maintenance program more cost-effective.

Currently, project cleanup levels are not appropriate to manage human health risk associated with a TCE plume as they are not consistent with State and Federal ARARs (MCLs and HRLs). Therefore, project cleanup levels must be modified to match both HRL and MCL standards in order to address this issue.

Institutional controls have not been implemented for the Site to ensure the effectiveness of the current remedial action.

All of the goals specified in the Consent Order/Remedial Action Plan for the remedial action have been met and all risk scenarios addressed in full. The MPCA must consider pursuing delisting the Site from the PLP and NPL.

IX. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

The MPCA has since completed it's evaluation of TCE contamination downgradient of the Nutting facility. Based on the data to date, the MPCA and MDH have concluded that the TCE plume from the Site is not associated with the TCE plume impacting local municipal well. The MPCA will pursue the following tasks during the next five years:

1. Develop a Close Out Plan (COP) which will establish criteria through which the remedial action will be shut down. The COP will establish criteria to make the current remedial action more cost-effective to manage in both the short- and long-term duration of the remedial action. The COP will also establish criteria which will dictate when it is appropriate to implement a natural attenuation study at the Site.

The purpose of this study will be to evaluate the potential for natural attenuation to adequately control and maintain TCE concentrations down gradient of the pump out system at levels below the associated ARARS (MCLs/HRLs).

2. The MPCA will update project cleanup levels for the Site based on ARARs as described by State and Federal standards (MCLs and HRLs).

3. Institutional controls in the form of a restrictive covenant will be developed to manage residual contamination left on Site.

4. Because the remedial actions objectives of the RAP have been met, the Site has been operating the pump-and-treat remedy effectively for over 15 years, the MPCA will delist the Site from the PLP and will proposes to have the Site delist from the Federal NPL and the State PLP.

X. STATEMENT OF PROTECTIVENESS

The remedy is protective of human health and the environment. The ground water extraction system is operational and functional and there are no exposures of concern. The best available information indicates that currently the system adequately protects human health and the environment. Long Term protectiveness will be achieved when ground water standards have been achieved.

XI. NEXT REVIEW

If the Site is delisted, the MPCA does not see the need for additional review by the U.S. EPA. Regardless of NPL delisting, if a site requires Reviews, these should still be conducted because this is a pre-SARA site, both agencies should determine based on site conditions whether a review is warranted as a matter of Policy. As per guidance, when it is determined that no future Reviews are needed, the basis for this finding should be documented in the final Five-Year Review Report..

It is probable that hazardous substances, pollutants or contaminants will remain at the Site which will not allow for unlimited use with unrestricted exposure, the next Five-Year Review is scheduled for completion five years after U.S. EPA approval of this third Five-Year Review.

Figures

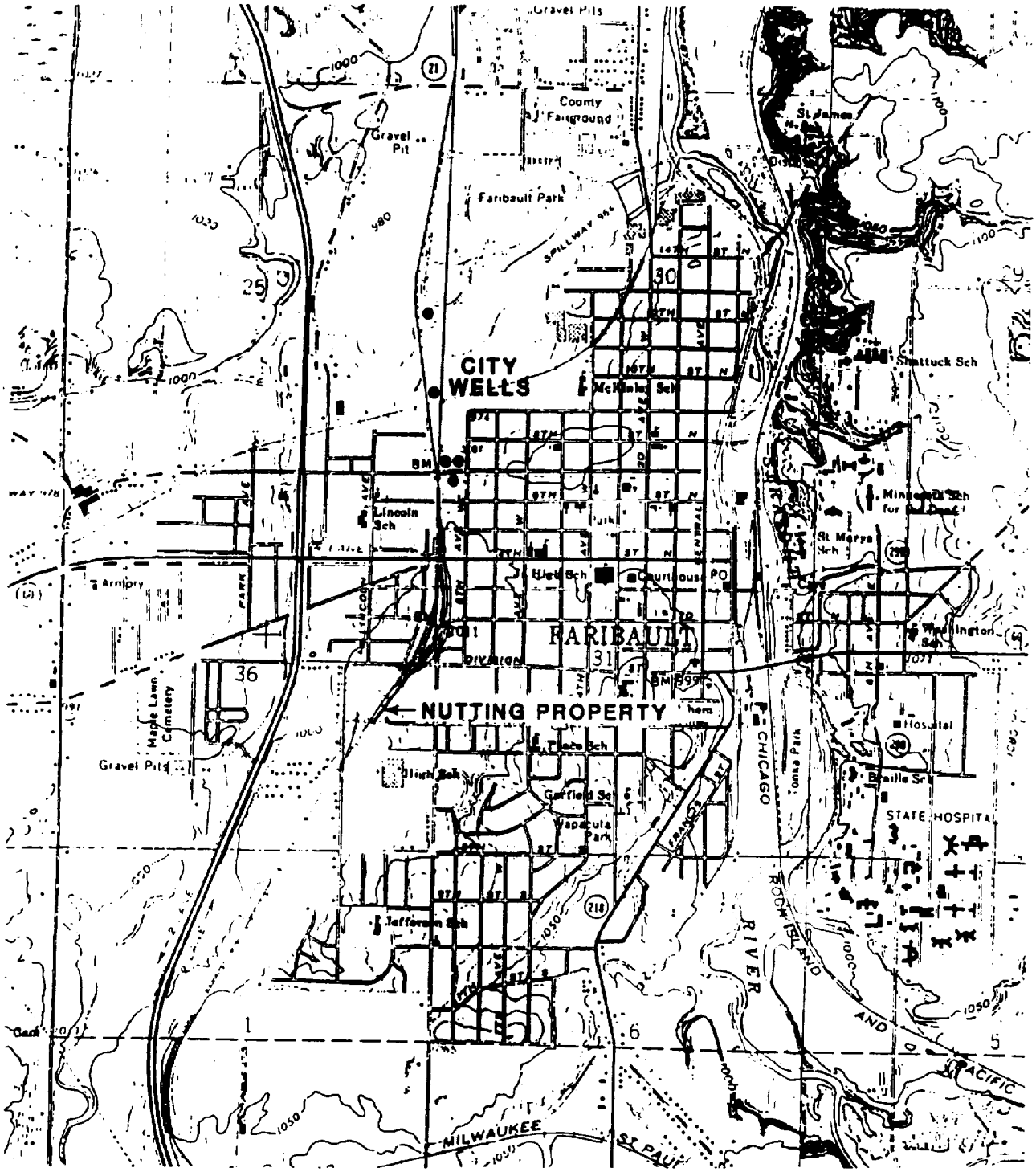

Figure 1

LOCATION MAP

The Nutting Company
Faribault, Minnesota

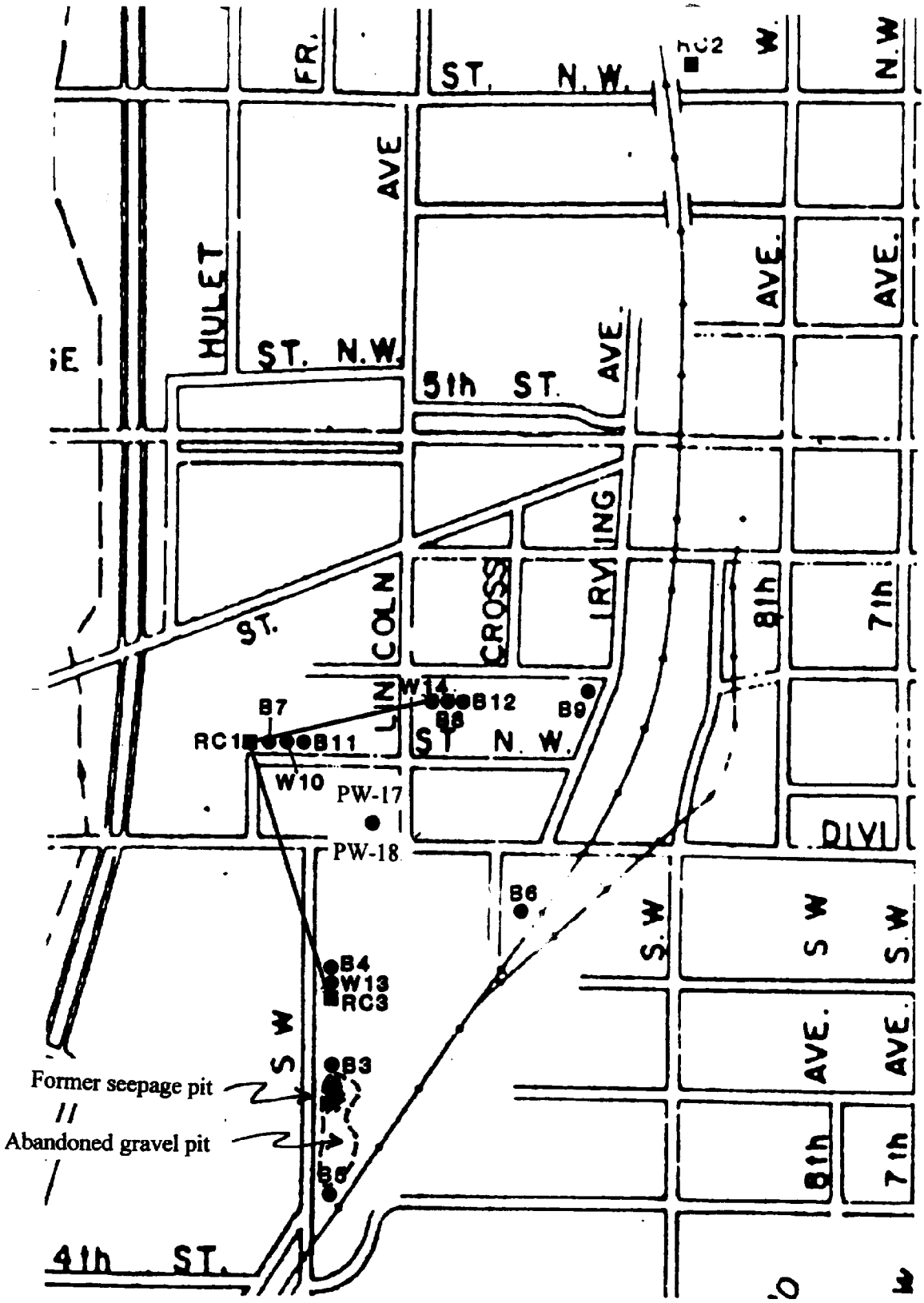

Figure 2.

MONITORING WELL AND CROSS SECTION LOCATIONS

The Nutting Company
Faribault, Minnesota

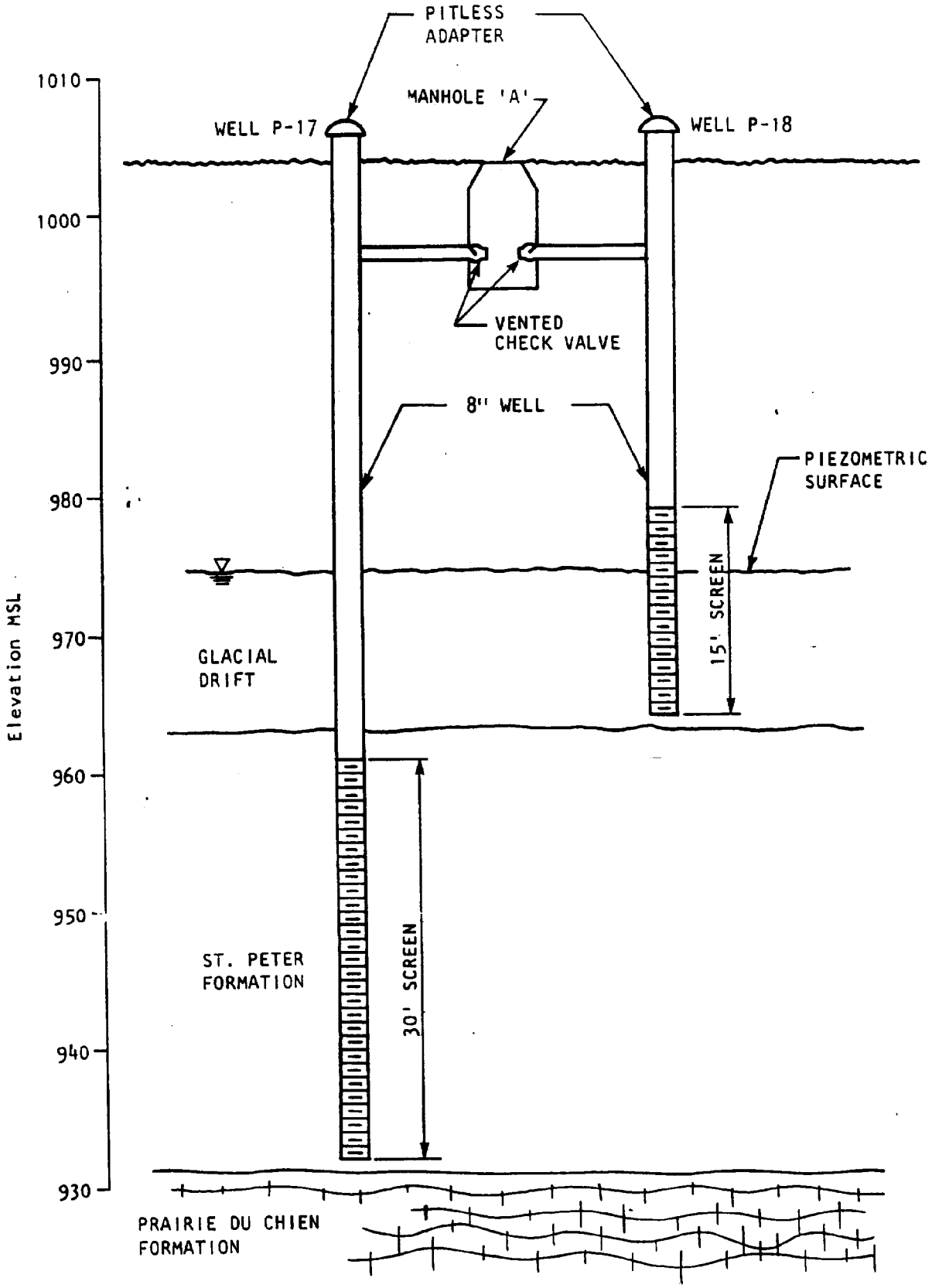

Figure 3.

PUMPOUT WELL CONSTRUCTION
RESPONSE ACTION PLAN
THE NUTTING COMPANY

Figure 4: [TCE] in Wells PW17 and PW18 vs. Time

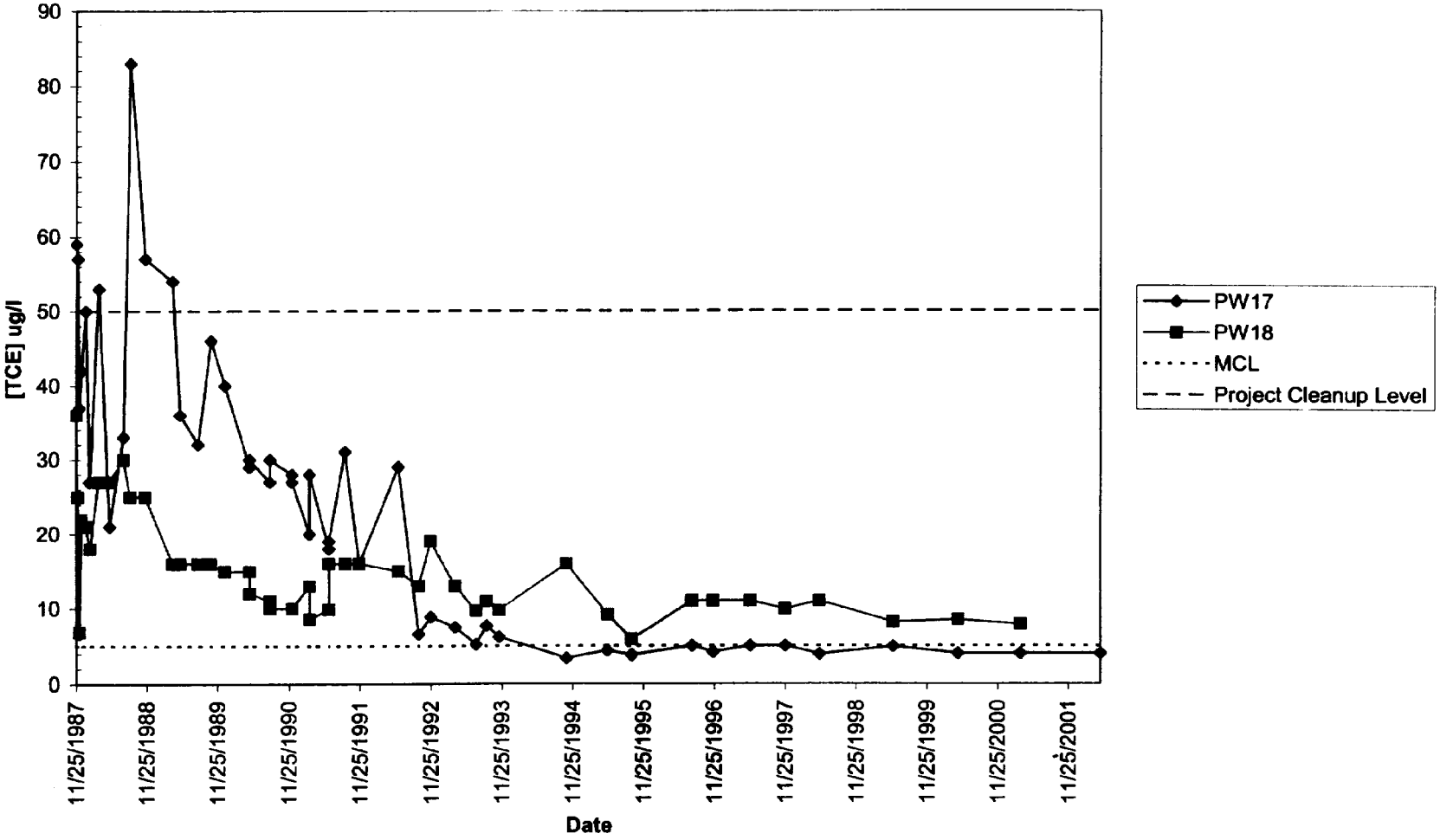

Figure 5: [TCE] in Well B4 vs. Time

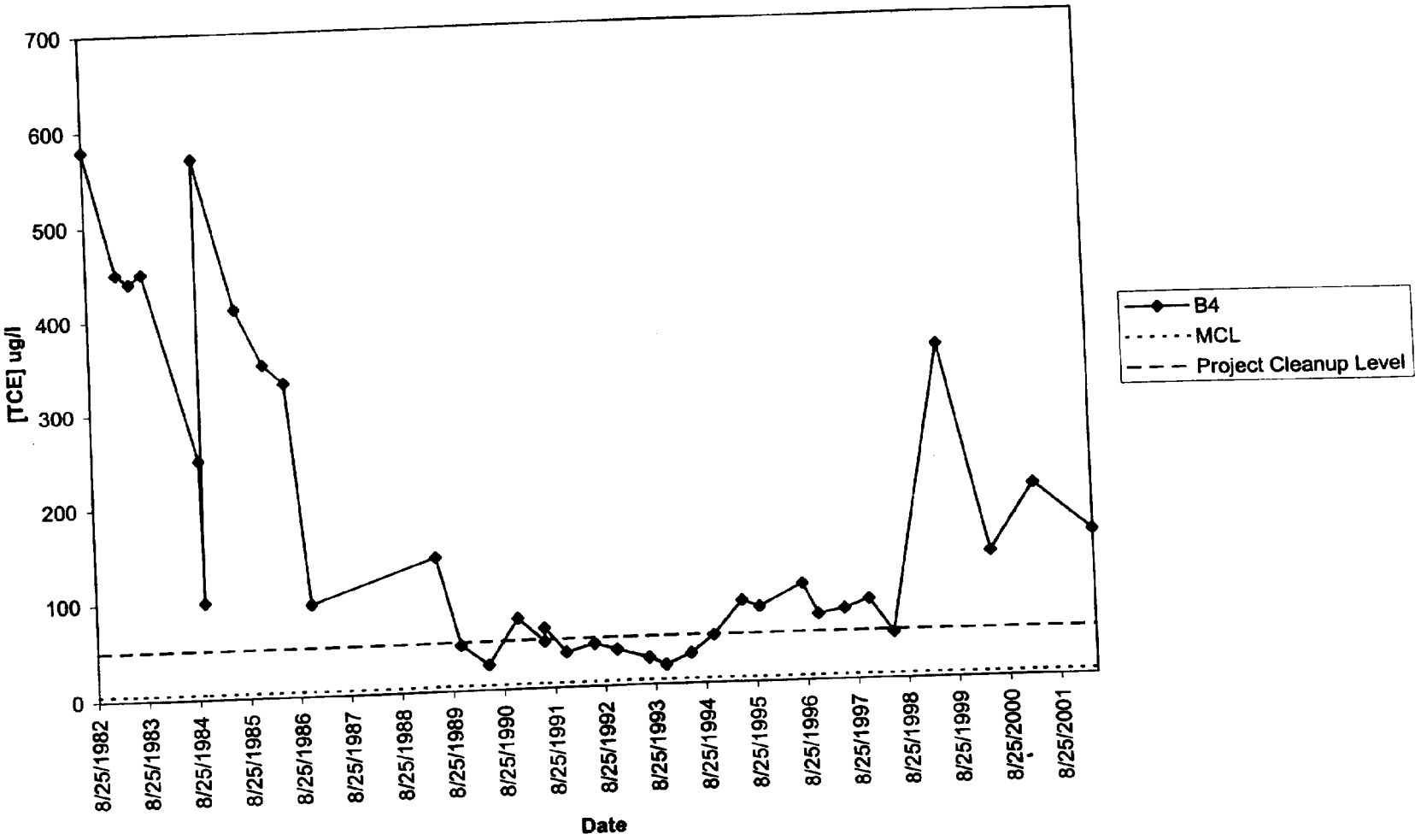

Figure 6: [TCE] in Wells B15 and W13 vs. Time